

DECLASS REVIEW by NIMA/DOD

STATINTL

28 MARCH 1960

SUBJECT: CONTRACT No. [REDACTED]  
MONTHLY PROGRESS REPORT No. 13

DEAR [REDACTED]

IN COMPLIANCE WITH THE REQUIREMENTS OF SCHEDULE A, ARTICLE 2, ITEM 5 OF SUBJECT CONTRACT, WE HERewith SUBMIT MONTHLY PROGRESS REPORT No. 13. THIS REPORT COVERS THE PERIOD FROM 9 FEBRUARY 1960 TO 9 MARCH 1960 ON THE DESIGN AND FABRICATION OF THREE (3) NADIR DETERMINATION DEVICES (GIANT).

UNIT No. 1 WAS SHIPPED FROM OUR PLANT ON 9 MARCH 1960. PRIOR TO SHIPMENT, A SERIES OF QUALIFYING TESTS WERE CONDUCTED TO ESTABLISH THE LIMITS OF THE MACHINE AND THE SYSTEM. ATTACHED HERETO IS A REPORT OF THE RESULTS OF THESE TESTS. ON 29 FEBRUARY 1960, [REDACTED] ACCOMPLISHED THE ACCEPTANCE TESTS ON THE UNIT. WE HAVE NOT RECEIVED THE RESULTS OF [REDACTED] TESTS; HOWEVER, WE WOULD GREATLY APPRECIATE A COPY OF THIS TEST REPORT. WE ARE ALSO INCLUDING THREE COPIES OF AN INSTALLATION SHEET WHICH DESCRIBES THE PARTS OF THE COMPLETE SYSTEM AND SOME OF THE LEADING PARTICULARS. A FLOOR PLAN LAYOUT WITH DIMENSIONS IS INCLUDED TO DEPICT THE NECESSARY SPACE WHICH MUST BE ALLOTTED IN CONSIDERING THE INSTALLATION OF THIS SYSTEM. WE WOULD APPRECIATE YOUR SENDING COPIES OF OUR TEST RESULTS, [REDACTED] TEST RESULTS, AND THE INSTALLATION SHEET TO THE USERS OF UNITS TWO AND THREE.

THROUGH THE END OF THE REPORTING PERIOD, WE HAD NOT RECEIVED THE ADDITIONAL FUNDS TOWARD COMPLETION OF THE CONTRACT. WE ARE CURRENTLY PREPARING A REVISED PROGRAM FOR COMPLETION OF THE SECOND AND THIRD UNITS AS WELL AS A REVISED ESTIMATED COST TO COMPLETE THE CONTRACT.

SINCERELY YOURS,

VICE-PRESIDENT  
ENGINEERING

JCP:JP

ATTACHMENTS

A [REDACTED]

6-1

STATINTL

*I will  
do after  
receipt  
of CGAR test  
results.  
JWC*

## GIANT TEST RESULTS

### 1. REPEATIBILITY

#### 1.1 AUTOMATIC REPEATIBILITY

MEASUREMENT WAS DONE ON 1:10 SLOPE INTERFACE OF DENSITY RATIO OF 0.5 AND 1.5. REPEATIBILITY OF THE X AUTOMATIC SETTING WAS DETERMINED FOR A FIXED Y READING. THE INTERFACE WAS REPEATEDLY APPROACHED FROM EITHER SIDE FOR A NUMBER OF READINGS (5). ALL SETTINGS WERE REPEATABLE WITHIN ONE COUNT; THAT IS, TWO MICRONS. (A RANDOM ERROR - DUE TO VIBRATION - OF  $\pm$  ONE COUNT WAS RECORDED DURING THE TEST.)

#### 1.2 MANUAL REPEATIBILITY

MANUAL REPEATIBILITY WHEN SETTING ON A GRID LINE WAS WITHIN FOUR COUNTS (EIGHT MICRONS) FOR ONE OPERATOR.

### 2. LINEARITY (MEASURED WITH GRID)

REPEATED MEASUREMENTS OF GRID LINES WERE MADE ON DIFFERENT PLACES OVER THE SCREEN. EIGHT MEASUREMENTS IN X AND Y DIRECTION WERE WITHIN 20 COUNTS (40 MICRONS) OF EACH OTHER. (THE AVERAGE GRID SIZE WAS DETERMINED AS  $1275 \pm 10$  COUNTS OR  $0.102 \pm 0.001$  INCH.)

### 3. MINIMUM LINE WIDTH

TESTS WERE MADE OF THE CAPABILITY OF THE MACHINE TO TRACK THE EDGE OF A LINE. LINES DOWN TO 0.012 INCH WIDTH AND WITH A SLOPE OF 1/10 WERE SUCCESSFULLY TRACKED.

### 4. MAXIMUM SLOPE OF INTERFACE

THE MACHINE IS CAPABLE OF TRACKING AN INTERFACE WITH A MAXIMUM SLOPE OF 1.5:10 WITH THE Y AXIS. (THE Y SPEED IN THIS MODE IS APPROXIMATELY 0.05 INCH/SEC.)

### 5. DYNAMIC ERROR

DYNAMIC ERROR FOR A 1:10 SLOPE IS 0.003 INCH AND FOR 1.5:10 IS 0.006 INCH.

### 6. RESOLUTION

A RESOLUTION OF 50 LINES/MM WAS OBSERVED.

### 7. MEASURING ENGINE SPEED

FAST SPEED	MAXIMUM: 0.5 INCH/SEC.	MINIMUM: 0.05 INCH/SEC.
SLOW SPEED	MAXIMUM: 0.008 INCH/SEC.	MINIMUM: 0.0008 INCH/SEC.

8. FILM TRAVERSE SPEED

THE MAXIMUM FILM TRAVERSE SPEEDS IN THE TWO RANGES ARE 20 INCH/SEC. AND FOUR INCH/SEC.

9. SCREEN LIGHT LEVEL

WITH FULL LIGHT BRILLIANCY AND NO FILM IN THE GATE, THE LIGHT LEVEL ON THE SCREEN IS ONE FOOTCANDLE IN THE CENTER AND THREE FOOTCANDLES AROUND EDGES.

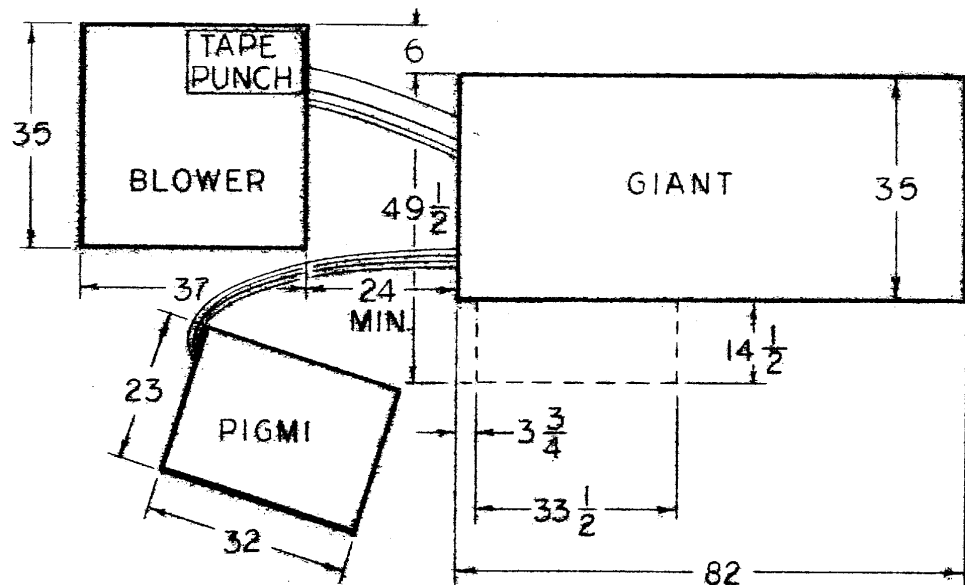
10. MINIMUM DENSITY DIFFERENTIAL

THIS MEASUREMENT POSTPONED UNTIL REQUIRED DENSITY FILTERS ARE RECEIVED.

A COMPLETE SYSTEM CONSISTS OF:

1. GIANT
2. PIGMI (special)
3. Blower
4. Tape punch
5. Cables - 7
6. Tape punch cover
7. PIGMI cover
8. GIANT cover
9. Way and screw oil
10. Mirror brush
11. Lamp tool
12. Special test cable
13. Leveling jacks - 4
14. 6" dia. blowers flexible hose
15. 2 hose clamps
16. Handbook

17. S24295 Schematic - Counter - PIGMI
18. S29697 " Readout "
19. S30448 " Buffer "
20. S30195 " High voltage power supply
21. S30341 " Overall control
22. S30871 " Tape punch
23. S31649 " Servo amplifier
24. S31667 " Power supply modification
25. S31668 " 400-cycle power supply
26. S31670 " Counter Unit - PIGMI



LEADING PARTICULARS

GIANT	35WX82LX62H	1150 lbs.
Blower Unit	35WX37LX37H	300 lbs.
PIGMI	23WX32LX47H	350 lbs.
Heat Dissipation	5000 watts	
Power	117VAC, 50AMP, 60 cycle (special connector needed HUBBELL #7581, 50AMPS flush grounded)	

For maximum eye comfort the unit should be operated in a room with subdued light.